

**REMARKS**

Claims 1-22 are pending. By this amendment, Claims 1-2, 7, 12-13, and 18 are amended. Applicants respectfully submit that no new matter is presented herein.

Claim 2 and 13 are amended for clarification purposes only and not for any reason related to patentability.

Entry of this Amendment is respectfully requested.

**Objections to the Oath/Declaration**

The oath and declaration are objected to as being defective, because, although the oath identifies the foreign application, the oath does not state that the foreign application had been filed by the inventor(s) or by the assignee, or the legal representative or agent, of the inventor, or on behalf of the inventor, pursuant to the Manual of Patent Examination Procedure (MPEP) § 201.13(II)(C). Applicants respectfully traverse the objection.

Applicants respectfully point out that, as indicated on the certified copy of the priority document and the Oath/Declaration filed in the instant case, the inventors of the priority document and the instant application are identical, i.e., the same.

Further, Applicants note “[t]he [MPEP] does not have the force of law or the force of the rules under Title 37 of the Code of Federal Regulations.” See Forward to MPEP (2d. Rev. 2004). Therefore, the MPEP cannot add to or subtract from the requirements established by a duly enacted statute of the United States Congress or a rule promulgated pursuant to a duly enacted statute by the United States Congress.

An oath or declaration must comply with the requirements set forth in 35 U.S.C. § 119(b)(1), 37 C.F.R. §§ 1.55(a)(1)(i), and 1.63(c)(2).

35 U.S.C. § 119(b)(1) states that a claim for priority must identify the foreign application by specifying the *application number* on the foreign application, the intellectual property authority or *country in or for which the application was filed*, and the *date of filing the application*, at such time during the pendency of the application as required by the Director.

37 C.F.R. § 1.55(a)(1)(i) states that a claim for priority must identify the foreign application for which priority is claimed, any foreign application for the same subject matter and having a filing date before that of the application for which priority is claimed, by specifying the application number, country, day, month, and year of it's the foreign application's filing.

Under 37 C.F.R. § 1.63(c)(2), in order for an application to claim for priority to a previously filed foreign application, the oath or declaration must identify any foreign application for patent (or inventor's certificate) for which a claim for priority is made pursuant to 37 C.F.R. § 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month, and year of its filing.

The Oath/Declaration filed in the present application satisfies all of the requirements set forth above. Specifically, the declaration includes a claim for priority (a check in the box indicating such a claim), the application number of the foreign application for which priority is claimed (2000-260918), the country in which the application was filed (Japan), and the date of the filing of the application (August 8, 2000). Therefore, the existing Oath/Declaration, as filed on August 15, 2001, complies with all of the legal requirements set forth in the governing federal statutes and rules.

Moreover, the inventors listed in the priority document and of the present application are identical. Accordingly, Applicants respectfully request withdrawal of the objection.

**Objections to the Specification**

Page 9, lines 3-8 are objected to because there appears to be an inconsistency as to the explanation of the ratio. Page 11, line 6 is object to because the acronym "CRT" has not first been spelled out prior to the acronym's use. Page 13, line 20 is objected to because the word "form" should be the word "from." The specification has been amended responsive to the objections. Accordingly, Applicants respectfully request withdrawal of the objections.

**Objections to the Claims**

The Office Action objects to claims under MPEP § 608.01(n), although the Office Action fails to identify which claims are objected to. Nonetheless, in the interest of preventing any needless delay, Applicants presume the Office Action objects to Claims 10 and 21. Applicants respectfully submit that, upon allowance of the pending claims, if appropriate, the claims should be renumbered, wherein Claim 10 is presented before Claim 7 and Claim 21 is presented before Claim 18.

Accordingly, Applicants respectfully request withdrawal of the objection.

**Claims rejected—35 U.S.C. § 112**

Claims 1-22 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, "the predetermined level" recited in Claims 1, 7, 12, and 18 lacks a proper antecedent basis. Claims 1, 7, 12, and 18 are amended responsive to the rejection.

Accordingly, Applicants respectfully request withdrawal of the rejection.

**Claims rejected—35 U.S.C. § 101**

Claims 1-22 are rejected under 35 U.S.C. § 101, because the claimed invention is directed to nonstatutory subject matter. Applicants respectfully traverse the rejection.

Whether an invention recites a mathematical algorithm, alone, is not a basis to reject a claim. See MPEP 2106(II). Moreover, the proper inquiry into whether an invention is patentable is whether the claimed invention accomplishes a practical application. That is, the claimed invention must produce a useful, concrete, and tangible result. See MPEP § 2106(II)(A) and *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998). Therefore, the Office Action's assertion on page 5, lines 3-10 that a process encompasses statutory subject matter only when the process requires certain things be done with certain substances is misplaced. While such a process is a type of statutory subject matter, patentable processes are not so limited. See *e.g.*, MPEP § 2106(II)(A) and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999) (claims drawn to a long-distance telephone billing process containing mathematical algorithms were held to be directed to patentable subject matter because "the claimed process applies the Boolean principle to produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle").

What constitutes a "useful, concrete, and tangible result" has been resolved on a case-by-case basis. In one such case, "a useful, concrete, and tangible result" was held to encompass the result of a mathematical calculation. For example, a process that transforms data, representing discrete dollar amounts, by a machine through a

series of mathematical calculations into a final share price, constitutes a *practical application* of a mathematical algorithm, formula, or calculation, because it produces *`a useful, concrete and tangible result'*--a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. *See State Street Bank & Trust Co.*, 149 F.3d at 1373 (emphasis added).

Moreover, only when a claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. § 101. MPEP § 2106(II)(A).

Claims 1-22 are directed to a method and system for forecasting future parts orders in part inventory management, particularly a method and a system for forecasting future number of orders or demand of low-order-rate parts whose order rates have fallen below a predetermined level. Specifically, Claims 1-6 and 10 produce a forecast of future number of orders of low-order-rate parts based on calculated occurrence rate probability distributions of number of orders during a predetermined period. Claims 7-9 and 11 produce a forecast of future number of orders of low-order-rate parts based on calculated occurrence rate probability distributions of number of orders during a predetermined period. Claims 12-17 and 21 recite, among other features, a forecasting means for forecasting future number of order of low-order-rate parts based on calculated occurrence rate probability distributions of number of order during a predetermined period. Claim 18-20 and 22 recite, among other features, a forecasting means for forecasting future number of order of low-order-rate parts based on calculated occurrence rate probability distributions of number of orders during a

predetermined period. Accordingly, Claims 1-22 do produce a useful, concrete and tangible result, and, therefore, a practical application, and not just a purely mathematical algorithm, contrary to the assertion by the Office Action. Therefore, Claims 1-22 are directed to statutory subject matter.

The Office Action also rejects Claim 12-22 under 35 U.S.C. § 101, because the claims are drawn to a system including a forecasting means for forecasting, which, according to the Office Action, is not supported by the specification. That is, on page 5, lines 13-15, the Office Action asserts that the specification does not reveal a “particular machine or manufacture” for performing the claimed functions of the “forecasting means.” Applicants respectfully traverse the rejection.

It appears that the Office Action argues that the specification does not support the scope of the claims. However, 35 U.S.C. § 101 does not address such issues. Accordingly, the rejection is misplaced.

Accordingly, for the reasons stated above, Applicants respectfully submit that the Office Action’s rejection is improper and, therefore, respectfully request withdrawal of the rejection.

**Claims Rejected—35 U.S.C. § 103**

Claims 1-6, 10, 12-17, and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Enterprise Modeling and Simulation: Complex Dynamic Behavior of a Simple Model of Manufacturing*, Hewlett-Packard Journal, December 1994, at 80 by Mujtaba (“Mujtaba”) in view of Official Notice. Applicants respectfully traverse the rejection.

Claim 1 recites a method of forecasting future orders of parts for products sold to customers, including the steps of: determining a time-course record of orders with respect to each part and extracting low-order-rate parts whose order records show order rate to have fallen below a predetermined level; determining from each such order record at least one parameter indicating a characteristic of orders after the order rate fell below the predetermined level, classifying the extracted low-order-rate parts into multiple categories and using the parameter indicating the characteristic of orders to calculate for each of the multiple categories an order occurrence probability distribution; carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period; and forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period.

Mujtaba discloses an enterprise model and simulation to predict system behavior prior to implementing a new solution at the level of business enterprise. More specifically, Mujtaba discloses an enterprise model and simulation to provide estimates of end-of-life inventory and order delivery performance based on interactions of forecast quality, quoted product availability, and material procurement and safety stock policies, as well as others, to show that end-of-life inventories can exist even under ideal environmental conditions.

However, Mujtaba does not teach or suggest each and every feature recited in Claim 1. The Office Action states that Mujtaba discloses a time analysis of orders for products and compares the results of enterprise modeling and simulation for each of the

products. However, Mujtaba does not disclose determining a time-course record of orders with respect to each part and extracting low-order-rate parts whose order records show order rate to have fallen below a predetermined level, as recited in Claim 1.

Additionally, the Office Action does not cite any portion of Mujtaba that teaches or suggests determining from each order record at least one parameter indicating a characteristic of orders after the order rate fell below a predetermined level, classifying the extracted low-order-rate parts into multiple categories and using the parameter indicating the characteristic of orders to calculate for each of the multiple categories an order occurrence probability distribution, as recited in Claim 1.

Additionally, while Mujtaba mentions a Monte Carlo simulation on page 82, lines 8-11 of the left-hand column, the recitation is a characterization of a separate reference. Additionally, Mujtaba does not describe what a Monte Carlo simulation is, its purpose, how it is used, or any motivation to incorporate the Monte Carlo simulation into the enterprise model and simulation of Mujtaba. To establish *prima facie* obviousness, there must be some suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. See MPEP § 2143. Additionally, each feature of the rejected claim must be taught or suggested by the prior art of record. See MPEP § 2143.03.

Here, the Office Action does not disclose any motivation in the Mujtaba reference or within the knowledge generally available to one of ordinary skill in the art to include a Monte Carlo simulation within the Mujtaba simulation. As such, the Office Action has used impermissible hindsight reconstruction to use the teachings of the present



application as a motivation to combine a Monte Carlo simulation with the Mujtaba simulation.

Moreover, the Office Action does not cite, and Mujtaba does not disclose, using a Monte Carlo simulation based on calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period, as recited in Claim 1. Such a feature is completely absent from Mujtaba.

Therefore, not only is there an absence of motivation to combine a Monte Carlo simulation with the Mujtaba simulation, there is no teaching or suggestion of a Monte Carlo simulation of the type described in Claim 1.

Further, contrary to the Office Action's assertion, Mujtaba does not teach or suggest forecasting future number of orders of low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during a predetermined period. Mujtaba merely discloses a simulation illustrating how the existence end-of-life inventory could result even where the inventory should theoretically be zero. See Mujtaba, page 80, lines 19-24 of the left-hand column.

For at least the reasons stated above, Mujtaba does not teach or suggest each and every feature recited in Claim 1. Therefore, Claim 1 is not anticipated by or rendered obvious in view of Mujtaba. Accordingly, Applicants respectfully submit that Claim 1 should be deemed allowable.

Claims 2-6 and 10 depend from Claim 1. Therefore, Applicants respectfully submit Claims 2-6 and 10 should be deemed allowable for the same reasons Claim 1 is allowable, as well as for the additional subject matter recited therein.

Claim 7 recites a method of forecasting future orders of parts for products sold to customers including, among other steps, determining from each order record an order occurrence probability distribution as a function of time and an order occurrence probability distribution as a function of a ratio of number of orders and carrying out a Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period.

However, the Office Action does not cite to any portion of Mujtaba that teaches or suggests determining from each order record an order occurrence probability distribution as a function of time and an order occurrence probability distribution as a function of a ratio of number of orders. Also, for the same reasons described above, Mujtaba does not teach or suggest carrying out a Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period.

Accordingly, the Office Action has failed to establish a *prima facie* case of obviousness with regard to Claim 7. Therefore, Applicants respectfully submit that Claim 7 should be deemed allowable.

Claims 8-9 and 11 depend from Claim 7. Therefore, Applicants respectfully submit Claims 8-9 and 11 should be deemed allowable for the same reasons Claim 7 is allowable, as well as for the additional subject matter recited therein.

"The initial burden in on the examiner to provide some suggestion of the desirability of doing what the inventor has done." MPEP § 2142. "If the examiner does

not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." *Id.*

The Office Action states that Claims 12-21 are unpatentable for the same reasons asserted against Claims 1-11. However, Claims 1-11 are directed to a method comprising one or more steps, whereas Claims 12-21 are directed to a system comprising one or more means-plus-function features. As such, the Office Action's reasons asserted against Claims 1-11 are not applicable to the features of Claims 12-21. Additionally, the Office Action does not cite any portion of Mujtaba teaching or suggesting any feature recited in any of Claims 12-21. Therefore, Applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness. Accordingly, Applicants are under no obligation to submit evidence of nonobviousness.

For the reasons set forth above, Applicants respectfully request withdrawal of the rejection.

### **Conclusion**

In view of the foregoing, reconsideration of the application, withdrawal of the outstanding objections and rejections, allowance of Claims 1-22, and the prompt issuance of a Notice of Allowability are respectfully solicited.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together

with any additional fees that may be due with respect to this paper, may be charged to  
counsel's Deposit Account No. 01-2300, **referencing docket number 107101-00036.**

Respectfully submitted,

**ARENT FOX PLLC**



Murat Ozgu  
Attorney for Applicants  
Registration No. 44,275

Enclosures: Petition for Extension of Time  
Check No. \_\_\_\_\_

Customer No. 004372

1050 Connecticut Avenue, NW, Suite 400  
Washington, DC 20036-5339  
Telephone: (202) 857-6000

TECH/327082.1